

REMARKS/ARGUMENTS

Reconsideration of the rejections set forth in the Office Action dated April 15, 2004 is respectfully requested. Claims 1-23 are currently pending and have been rejected.

Claim 17 has been amended to correct an inconsistency in dependency. Specifically, claim 17 has been amended to be dependent from claim 16. Claims 7, 14, and 21 have been amended to more clearly recite that at least one time slot is allocated for transmission from a first node that can be directly contacted by a master node to the master node. Support for these amendments may be found in the Specification, as for example on pages 13 and 14.

The Applicant is unfamiliar with some of the notation used by the Examiner in the Office Action dated April 15, 2004. By way of example, in the Examiner's rejection of claim 1 as presented on page 4 of the Office Action dated April 15, 2004, the Examiner writes "(Col. 4, lines 17-30; Col. 9, lines 35-38; claim 1/7/8/14/16/21/22 – means/code...." The Applicant understands that the references to the columns refer to passages in Gehring. However, it is unclear to the Applicant whether the mention of "claim 1/7/8/14/16/21/22" refers to Gehring or to the instant application. If the notation refers to claims in the instant application, the Applicant notes that the Examiner does not appear to have rejected claims 7, 14, and 21 under 35 U.S.C. § 102(e), which would seem to be indicated by the notation. The Applicant has interpreted the notation as referring to claims in the instant application, as such an interpretation seems to be more correct than an interpretation which attributes the claims to claims in Gehring.

Drawing Objections

The drawings have been objected to as having margins which are not sufficient to show all referenced element numbers. In a sincere effort to address the Examiner's objections, the Applicant is submitting corrected drawings which show all of the referenced element numbers.

Since all referenced element numbers are shown in the Applicant's copy of the instant application as filed, the Applicant is unable to "redline" the original drawings to show proposed corrections since the Applicant is not sure which referenced element numbers are not shown in the drawings as filed.

Claim Objections

The Examiner has objected to claim 17 for informalities. Specifically, the Examiner has objected to claim 17 for appearing to improperly depend from claim 15. The Applicant has amended claim 17 to depend from claim 16, and believes that the Examiner's objection to claim 17 has been overcome in light of this amendment.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 4, 8, 9, 11, 15, 16, 18, and 22 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Gehring et al. (U.S. Patent No. 6,597,683 B1), hereinafter "Gehring."

Independent claim 1 recites a method for coordinating access to a shared transmission medium which includes generating a schedule of a wireless transmission for nodes. The schedule precludes collisions between simultaneous transmission by any pair of nodes controlled by a master node including pairs of nodes that do not hear each other's transmissions.

The Examiner has argued that Gehring teaches the method of claim 1. In the arguments set forth on pages 3 and 4 of the Office Action dated April 15, 2004, the Examiner has stated that Gehring discloses "means/code for generating a schedule for node transmission precluding collisions between simultaneous transmission by any pair of nodes including pairs that do not hear each other." It is respectfully submitted that Gehring does not appear to disclose precluding collisions between simultaneous transmission by any pair of nodes controlled by a master node including pairs of nodes that do not hear each other's transmissions. Gehring teaches of data slots which provide data transmission time for corresponding slave devices (Gehring, column 9 at lines 34-40). However, data slots which provide data transmission time for corresponding

slave devices do not teach of precluding collisions between simultaneous transmission by any pair of nodes. Further, there does not appear to be any suggestion of, let alone teaching of, a generated schedule that precludes collisions between simultaneous transmission of pairs of nodes that do not hear each other's transmissions in Gehring. As such, claim 1 is believed to be allowable over Gehring for at least this reason.

Claims 2-4 each depend either directly or indirectly from independent claim 1 and are, therefore, each believed to be allowable over claim 1 for at least the reason set forth above with respect to claim 1. Each of these dependent claims recite additional limitations which, when considered in light of claim 1, are believed to further distinguish the claimed invention over the art of record.

Independent claim 8, 15, and 22 recite similar limitations as recited in claim 1. As a result, claims 8, 15, and 22, as well as their respective dependents, are each believed to be allowable over Gehring for at least the reason set forth above.

Rejections under 35 U.S.C. § 103

Claims 5, 6, 12, 13, 19, 20, and 23 have been rejected under 35. U.S.C. § 103(a) as being unpatentable over Gehring in view of Anvekar et al. (U.S. Patent No. 6,377,805 B1), hereinafter "Anvekar." Claims 3, 7, 10, 14, 17, and 21 have been rejected under 35. U.S.C. § 103(a) as being unpatentable over Gehring in view of Bandeira et al. (U.S. Publication No. 2002/0072329 A1), hereinafter "Bandeira."

Independent claims 5, 12, 19, and 23 and their respective dependents

Independent claim 5 recites a method for coordinating access to a shared transmission medium that includes receiving registration information from a newly contactable node at a selected wireless node, and forwarding the registration information from the selected wireless node to a master node. The method also includes receiving a time allocation for transmission by

the newly contactable node from the master node at the selected wireless node, and transmitting the time allocation for transmission by the newly contactable node to the newly contactable node.

In his rejection of claim 5, the Examiner has admitted that Gehring does not show selected nodes receiving and forwarding registration information from new nodes to a master node, and continuing to receive and forward a transmission time allocation for the new node from the master node. However, the Examiner has argued that Anvekar somehow overcomes the deficiencies of Gehring. The Applicant respectfully submits that Anvekar does not overcome the deficiencies of Gehring.

Anvekar appears to teach of a node (handoff mobile unit 205) that checks for channel availability (Anvekar, column 4 at lines 37-39). The node (handoff mobile unit 205) pages selected wireless nodes (slave mobile units 206) until a channel becomes available to allow the node to relay data packets to and from a selected wireless node (slave mobile unit 206) (Anvekar, column 4 at lines 9-21). Anvekar does not appear to suggest that there is any communication which occurs between a newly contactable node (handoff mobile unit 205) and a master node (master unit 204), as Anvekar specifically teaches that a newly contactable node (handoff mobile unit 205) communicates only with an available selected wireless node (slave mobile unit 206) which functions as a master only until the selected wireless node (slave mobile unit 206) can get a communication link with a master node (master unit 204) (Anvekar, column 4 at lines 9-15), and does not teach of or suggest that the newly contactable node (handoff mobile unit 205) forwards registration information through the selected wireless node (slave mobile unit 206) to the master node (master unit 204). There is no teaching of or suggestion in Anvekar of any communication occurring between a newly contactable node (handoff mobile unit 205) and the master node (master unit 204) through a selected wireless node (slave mobile unit 206). Hence, the Applicant submits that Anvekar does not teach of or reasonably suggest a method which includes receiving registration information from a newly contactable node at a selected wireless node, and forwarding the registration information from the selected wireless node to a master node. Accordingly, claim 5 is believed to be allowable over the art of record for at least this reason.

Anvekar also does not appear to teach or suggest that the selected wireless node (slave mobile unit 206) receives a time allocation for transmission from the master node (master unit 204) or that the selected wireless node (slave mobile unit 206) transmits the time allocation for transmission to the newly contactable node (handoff mobile unit 205). Anvekar appears to teach that once a newly contactable node (handoff mobile unit 205) establishes a link with a selected wireless node (slave mobile unit 206), the newly contactable node (handoff mobile unit 205) sends information to a network server 201 to communicate with it through the selected wireless node (slave mobile unit 206) (Anvekar, column 4 at lines 49-53). However, there is no teaching or suggestion that the network server is a master node that is arranged to transmit a time allocation for transmission by a newly contactable node. Therefore, since neither Gehring nor Anvekar, alone or in combination, teaches or suggests that a selected wireless node receives transmit a time allocation for transmission by a newly contactable node from a master node and transmits the time allocation to the newly contactable node, claim 5 is also believed to be allowable over the art of record for at least this additional reason.

Claim 6 depends directly from independent claim 5 and is, therefore, believed to be allowable over claim 5 for at least the reasons set forth above with respect to claim 5. Independent claims 12, 19, and 23 recite similar limitations as recited in claim 5. As a result, claims 12, 19, and 23, as well as their respective dependents, are each believed to be allowable over the art of record for at least the reasons set forth above.

Independent claims 7, 14, and 21

Independent claim 7 recites a method which includes generating a transmission schedule at a master node, and distributing the transmission schedule from the master node to other nodes. The transmission schedule is divided into time slots where at least one time slot is allocated for transmission from a first node that can be directly contacted by the master node to the master node and for transmission from a second node that cannot be directly contacted by the master node but can be directly contacted by the first node.

On page 7 of the Office Action dated April 15, 2004, the Examiner has stated that Gehring does not show a time slot allocated as a subslot for transmission by a first node that can be directly contacted by a master node and a second node that cannot be directly contacted by the master node. It is respectfully submitted that Bendeira does not overcome the deficiencies of Gehring. Specifically, Bendeira does not appear to teach of or suggest that at least one time slot is allocated for transmission from a first node that can be directly contacted by a master node to a master node and for transmission from a second node that cannot be directly contacted by the master node by can be directly contacted by the first node. Bendeira teaches of polling cycles in which a repeater node (e.g., location 2 of Figs. 2 and 4 of Bendeira) stores collected upstream data during its full polling cycle (Bendeira, page 5 at paragraph 0054), then waits to be polled by its master at which time the repeater node transmits all of the upstream data it collected (Bendeira, page 5 at paragraph 0054). Hence, Bendeira does not teach of a time slot during which the repeater node transmits data to its master and during which a node that cannot be directly reached by the master node is also transmitting. Accordingly, claim 7, as well as claims 14 and 21, are each believed to be allowable for at least this reason.

The use of polling cycles results in network bandwidth being allocated “on demand” (Bendeira, page 6 at paragraph 56). The Applicant submits that a polling protocol that results in bandwidth being allocated “on demand” does not teach of or suggest any scheduling of time slots, including a time slot that is allocated for transmission from a first node that can be directly contacted by a master node and for transmission from a second node that cannot be directly contacted by the master node by can be directly contacted by the first node. As such, a combination of Gehring and Bendeira would not result in the transmission schedule recited in claim 7. Therefore, claims 7, 14, and 21 are each believed to be allowable for at least this additional reason.

Conclusion

For at least the foregoing reasons, the Applicant believes all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 446-8696.

Respectfully submitted,



Peggy A. Su
Reg. No. 41,336

RITTER, LANG & KAPLAN LLP
12930 Saratoga Ave., Suite D1
Saratoga, CA 95070
Tel: 408-446-8690
Fax: 408-446-8691